Sleeplessness and its Cure.

By Dr. ANDREW WILSON. See page 354.

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HEALTH

A WEEKLY JOURNAL OF

DOMESTIC AND SANITARY SCIENCE.

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EDITED BY DR. ANDREW WILSON, F.R.S.E. &c.

VOL. XI.—No. 283. FRIDAY, SEPTEMBER 7, 1888. [PRICE TWOPENCE.

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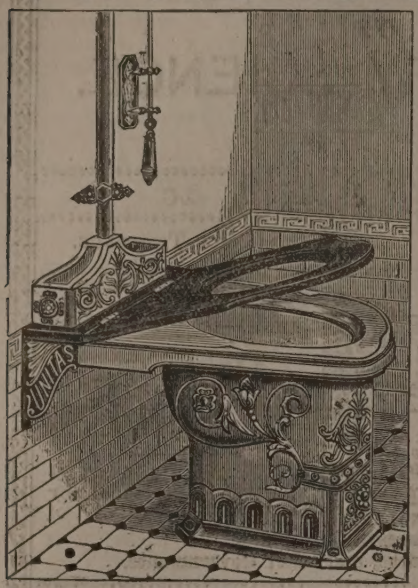

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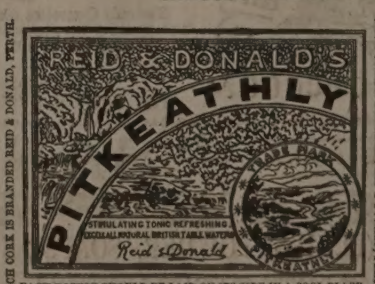
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HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, SEPTEMBER* 7, 1888.

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Notes by the Way

BY THE EDITOR.

"Health is the foundation of all our physical happiness."—*Herder.*

A CASE of severe diarrhœa controlled by the administration of resorcin is reported by Mr. G. E. J. Greene. The patient was a boy seven years of age, and there was a history of digestive trouble on the first and second days, for which catechu, opium, chloroform, and chalk had been prescribed without benefit. A ten grain dose of resorcin in half an ounce of water every hour was then ordered, and after the fifth dose the diarrhœa was much benefited. The dose was afterward raised to fifteen grains every third or fourth hour, and in three days the diarrhœa was completely controlled. No disagreeable after-effects were noticed.

THE best way of securing the house against danger from its pipes during times when it is not occupied is a matter upon which it seems plumbers are by no means agreed. The danger to be guarded against when the house is shut up and people are away holidaying, is the emptying of traps by evaporation or siphonage. Some plumbers go so far as to say there is no safety short of disconnecting the fixtures and securely closing the ends of the pipes. Others recommend shutting the water off and filling the closet with oil. Some suggest simply shutting the water off, while others would do this and also ventilate the closet.

FILLING the closets and traps with raw oil or glycerine after shutting off the water is a favourite recommendation. Some plumbers favour an adjustment of the valves, so there will be a continual dripping of water. One authority wisely suggests that, where a house is to remain closed for some time, the best plan is to arrange with some person to go into the house once a week or so, let the water circulate throughout the house, and take a look round to see that all is right.

SIGNOR S. MARGHIERI, the well-known antiquary, has discovered and explored a hermetically sealed cave, at an elevation of nearly 4,000 feet, on the eastern side of the Sierra Madre Mountains in Mexico, about 200 miles south of Deming, between Coralitos and Casa Grande, about two years ago. The floor was nearly smooth, the sides rough and rugged, and the vault covered with stalactites. In the far end of the cavern were found four desiccated human bodies.

THE bodies were in a sitting posture, with the hands crossed on the breast, and the knees approaching the chin, with the head inclined forward. They were carefully shrouded in their burial garments, and placed facing the rising sun. The male and female were seated side by side. The older child, a boy, was at the right of the father, and the younger child, a girl, at the left of the mother. In addition to the funeral shrouds, the little girl was enveloped in the skin of an animal, similar to the method used in the island of Fuerte Ventura, the better to preserve its tender frame.

Do library books spread infection? asks the *Lancet*, and in reply to this important public question that journal says that, a good deal of discussion having taken place on the subject of the spread of infectious diseases by means of the books in circulating libraries, the Dresden municipal authorities have had a thorough experimental investigation of this question conducted. A number of much-used volumes from the town library were taken for the purpose. The dust from the leaves and covers was sown in nutrient media and cultures reared, the result being that no microbes belonging to infectious diseases were found—the dust being, in fact, nothing but ordinary dust of a harmless character.

AGAIN, the dirtiest leaves in the books were rubbed first with the dry finger and then with the wet finger.

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In the first case scarcely any microbes were found on the finger; in the second case plenty were found, but all appeared to be of a non-infectious character. Especially is it noted that there were no tubercle bacilli. Lastly, books were soaked for two days in spirit containing 10 per cent. of carbolic acid. This treatment destroyed all the bacilli, and proved harmless to the volumes. The conclusion arrived at was that the danger of circulating libraries spreading infection is very slight, but a recommendation is given to dust books well before reading them, and never to wet the finger in the mouth for the purpose of turning over the leaves.

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OF making summer drinks, says a writer, there is no end. To the long list of syrup drinks the most notable addition is "pear phosphates," made of acid phosphate, the flavour of which suggests the presence of pear syrup. "Egg phosphate" is a combination of egg with pear phosphates, and much resembles an egg nogg without liquor. Coca and calisaya and calisaya cordial are in demand with those fatigued, especially by brain work, or needing the tonic action of quinine.

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ACID PHOSPHATES (Horsford's) and Vichy, or the phosphate with lemon syrup, should be included in the list. Lime-fruit drinks are in brisk demand, being more acid and bracing than lemonade. Vichy and cream has come into vogue, though an expert will prefer, especially at breakfast time, one part of Vichy to two of milk. Hock and soda retains its popularity, but if one must cross the dividing line between temperance and alcoholic beverages, a symphony in ginger ale and claret is not to be despised, and there is no better drink than that which the cricketers have taken under their peculiar patronage—a shandygaff of ale and ginger beer iced to polar frigidity in a covered tin pail.

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THE following remarks on sea-bathing are well worth being borne in mind:—A calm, warm, and sunny day should be chosen; a windy day should be particularly avoided, for the evaporation from the clothes and the body is then so rapid as to chill the bather both on entering and leaving the water. Never go into a cold bath when you feel cold. This well applies to all bathers, whether strong or delicate. To make it effective, it is desirable to lose no time after beginning to undress in getting into the water. The best time of the day is two or three hours after eating, and preferably in the forenoon.

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IT may be borne in mind that the beach and the waves themselves are generally cleaner during the ebb tide than during the flood, and it is desirable that the air should be warm as well as the sea. The sun being well out, the first bath from the beach may be taken, and it should be a very brief one, lasting no longer than is necessary to wet the body from head to foot. On leaving the water, the bather should strip and be rubbed dry, and this immediately. Indolent bathers run more risk by lingering and shivering in their wet clothes than from any amount of swimming.

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SPEAKING of tobacco as an insecticide, French experimenters regard with much favour the vapour of tobacco as an insect destroyer, deeming it more desirable than the smoke, especially to rid delicate plants of "thrips," lice, scale, and slugs. The juice of the stems or leaves, extracted by soaking or boiling, is simply diffused through the closed greenhouse, conservatory, or covered tub, by being placed over a chafing dish or the flame of a lamp.

Original Essays

"Life is not to live, but to be well."—*Martial.*

SLEEPLESSNESS.

BY DR. ANDREW WILSON.

OF late a discussion has been taking place in more than one newspaper regarding the best method of inducing sleep in cases in which that form of natural repose refuses to visit the resting individual. Most of us, I opine, will agree with Sancho Panza in his enthusiastic remark wherein he beseeches heaven to "bless the man that first invented sleep"; and there is much wisdom in John G. Saxe's poem in which the benefits and merits of a "long lie" in bed are duly extolled. There is, probably, nothing so annoying as even an hour in bed spent in restlessly tossing from one side to the other, in the vain endeavour to woo "the drowsy god." By a curious complexity of things, the more one desires sleep under such circumstances, the further does Morpheus seem to retire; until, when, seemingly, we have exhausted all endeavours to obtain quiet and rest, we pass unconsciously into the dim borderland where all the troubles of life are forgotten, or else are only suggested in the dreams of the night.

Naturally, every one desires to obtain healthy sleep, undisturbed by dreams and nightmare-visions. Yet it is open to question whether many, if not most, of us seek the right ways and methods of obtaining the desired rest for body and mind alike. A first point of high importance, but one, at the same time, mostly neglected by everybody, in the question of sleep, is that involved in the assertion that sleep bears a natural relation to the work and habits of the day. Still more closely, too, does sleep show a relation to the state of health of the individual.

These statements are easily proved. A person who, in addition to his daily work, is preparing, say, for an examination, and who therefore reads and studies deeply prior to the hour of rest, need not be in the least degree surprised if he does not go off to sleep as rapidly as he could wish. In such a case, the brain is over-fatigued. There has occurred in the history of such a person over-stimulation of his nerve-centres. The time and degree of "tiredness" which together favour sleep have been passed and exceeded, and there remains a wakefulness of the brain-tissues, which is antagonistic to sweet repose. The brain, like every other organ in the body, exhibits what, for want of a better term, we may name "tonicity." In its healthy work and life, it performs its manifold duties and grows tired, as does the muscle. When over-stimulated, however, the nervous powers respond, doubtless, to the demand for increased work and attention; but there succeeds afterwards an undercurrent of wakefulness, the existence of which is fatal to sleep. It is with the brain as with the roysterer. Once aroused and excited, the latter determines "to make a night of it"; and so the organ of mind, unduly overtasked, responds to the call, and refuses, through over-excitation, to be lulled into its due and needed repose.

This is the case of thousands who "cannot sleep." They have themselves to blame for first of all demanding additional work from the brain without laying their account for the brain's after-stimulation and wakefulness, which is thereby induced. As regards habits and health, the cases are on all fours with that we have just illus-

trated. A person unaccustomed to sit up late feels at first extremely sleepy as his hour of repose approaches. Later on, this sense of fatigue passes away, and for the rest of the night he appears to be as lively as a cricket. Then, when he seeks his couch, sleep refuses to close his eyelids, and for precisely the same reason noted in the case of the over-zealous student.

The state of health, again, is to be dealt with on similar grounds. The nervous, irritable invalid is in the position of the overworked student; and it is needless to remark that a man with a fit of indigestion or a bilious attack, or who has participated not wisely, but too well, in the delights of the table, need not rationally expect his brain to be soothed and ready to fall into dreamland when his digestive system is awake and active. The late supper-devourer, also, if he sleeps at all, is generally a person who complains that his "rest is disturbed." He loads his stomach prior to retiring to rest, and is then foolish and ignorant enough to expect that the laws of life are to be suspended for his especial benefit. He expresses surprise when his doctor tells him that his late gorging is the cause of his unrest, and demands that the physician shall supply him with the means to procure sleep—so irrational, indeed, are many otherwise reasonable people. Sleep is, in truth, a part and parcel of our existence, as much as our waking life, and unless we make up our minds so to regard it and to court it, we may rest perfectly assured that natural repose is a thing hopeless of attainment.

The question of *habit*, in relation to sleep, is so important, that this phase of the question deserves to be duly enforced on the reader's mind. We regulate our waking life largely through habit, and our daily existence is ruled largely and wisely by the recurrence in our history of acts and events which repeat themselves day by day at given hours. As regards food and other items of our lives, habit and regularity, as we must own, reign supreme as conditions for health. The irregular man, in respect of meals, sooner or later becomes a martyr to dyspepsia, and this remark holds good of most of, if not all, the daily and personal duties we owe and pay to ourselves.

In the matter of sleep, too, it is obvious, habit rules supreme. The man accustomed to go to bed at a given hour, as we have seen, knows when his time of repose approaches by the feeling of somnolence he experiences. Once past that hour, he can with difficulty woo sleep to his couch. Even in the case of night workers this regularity is exemplified. The hour of the morning at which rest and repose are sought betokens its approach by the feeling of languor which supervenes. Hence a primary piece of advice to those troubled with sleeplessness is *to cultivate a habit of regularity in the time of retiring to rest.* For a few nights the plan of curing sleeplessness may not be over successful, but its practice is bound to tell in the long run. We are creatures of habit it is true; therefore let us make habit, use, and wont subservient to the ways and works of health. To people who "can't sleep," as the phrase goes, I firstly say, examine your daily life well, as regards food, exercise, recreation, and the other items included in the run of ordinary existence, and alter your life, if need be, in the direction of securing your retirement to rest at a given hour. What at first seems to be trivial, a mere experiment, will become stereotyped into a habit, and that habit will remain as an aid and adjunct in securing needed repose.

Many apparently unimportant points in our personal history, however, destroy the chances of sound sleep and of sleep-invasion to begin with. For instance, there is little use (to go back upon a previous remark) in advising people about sleep, if they persist in late and heavy suppers. If they do sleep under such circumstances of erroneous feeding, it is because they have become engrained with the habit of gormandizing at unseemly hours. Habit asserts itself here, as elsewhere, no doubt, but the sleep of the supper-eater is, as a rule, a disturbed period—to say nothing of his awaking with a coated and furred tongue, and the general symptoms which indicate that his digestive system has been maltreated and overtaxed.

Again, a notable but often unsuspected and overlooked cause of sleeplessness is found in the *defective ventilation of bedrooms.* It is impossible to sleep soundly and healthily in a room charged with carbonic acid, wherein we rebreathe our own breath. That we should see to the ventilation of our sleeping apartments is, therefore, a piece of sound philosophy in a health sense. Adopt Hincks Bird's plan and, leaving the upper half of the window shut, raise the lower sash of the bedroom window four or six inches on a piece of wood running the whole length of the frame and fitting closely on the window sill, and fresh air will come in, without draught, between the two sashes. Again, always leave the damper of the grate unclosed, so that the chimney may act as a ventilating-shaft, in some degree at least. Do away with those æsthetic abominations in the shape of fireplace ornaments in bedroom grates, and leave free access for air by grate and chimney. In this way many a sleepless night will be avoided. If you rise in the morning unrefreshed and wearied (providing you are not a supper-eater at unwholesome hours and are otherwise a careful liver), rest assured the carbonic acid from your own lungs is at the root of your troubles, and that you have unconsciously been converting your bedroom into a Black Hole of Calcutta. Thus from the standpoint, firstly, of food and habit, and, secondly, of fresh air, many cases of sleeplessness may be successfully treated. I certainly say, first of all, look to these points in personal history before you go further afield in seeking for a cure for sleepless nights.

There remain for notice at least two phases of sleeplessness which are well worthy our observation. Thus, everyone knows the soothing comfort experienced in changing the warm side of a pillow for the cold side. Now, such cooling alone will often induce sleep, and I have known of sleeplessness being cured in some cases (I do not say the remedy is infallible) by the head being lightly sponged or damped with cold water prior to retiring to rest. On the same principle, the undue weight of bedclothes has been said to favour sleeplessness. Hence, by all means, let us prefer light bed-clothing in the shape of Eider-down quilts, or the cool air-permeated sheets, &c., made by the Cellular Clothing Company, to heavy blankets and loaded bedclothes.

The well-known expedients recently quoted in the newspapers of counting up to a hundred or so, and of trying to recollect one's last dream, are so many attempts to fatigue sense, and to induce sleep by a process analogous to that whereby the mesmerist seeks to send his subject into a trance. Any monotonous occupation in fact predisposes to sleep, through its fatiguing eye or ear; but the experiences of many persons who have tried these methods of procuring sleep by no means testify to their success or value. The very act of exercising the brain in such calculations and summations is apt to defeat the object of the attempt.

Finally, a word regarding drugs—"soporifics," "hyp-

notics," and "opiates," as they are named—used to procure sleep. I strongly advise no reader of mine ever to begin to tamper with sleep-producing drugs. Amateur doctoring, in this respect, is dangerous. Not that the thirty grains of bromide of potash, or a safe dose of urethane, or sulphonal, or morphia, are in themselves hurtful. In some cases—of disease, or ill-health, and when prescribed by physicians—drugs are absolutely necessary. But the sleep produced by most drugs is often unnatural, it is at the best unrefreshing, and, worst of all, it is repose which to be again enjoyed, necessitates a return to the drug. Nor is this all. If any drug be taken regularly, it loses its effect, unless the dose be increased. Numerous fatal accidents have arisen in this way, through the dose of chloral, for instance, having been unduly increased, in order to overcome sleeplessness. Of the person who takes drugs to secure sleep, it may truly be said, the last state of that man is worse, much worse, than the first.

Drugs are only aids to health; they do not represent health in itself. In the case of sleep, this remark holds most true. Let us woo gentle sleep by the help of exercise, healthy work, fresh air, and regular habits, and, for once at least, "throw physic to the dogs"—although, indeed, the lower animal creation would not thank us for a gift whereof they do not stand in need.

MEAGRE FARE.

By Dr. W. Curran.

THIRD AND LAST PAPER.

Leaving the episodes related in our last paper to speak for themselves, as well as for the "noble" personages they represent, I must mention a few more items of this kind and then rush, rather than run, to a conclusion. I never, indeed, dreamt of so long an essay as this is, but the subject is one of many phases. We cannot all look so complacently, or even so patronizingly, around us as can a royal highness or even a duke, and necessaries rather than superfluities are the order of the day. This being but too obviously so, I may mention, on the authority of Lord Dufferin ("Letters from High Latitudes," p. 144), that "the ordinary food of a well-to-do Icelandic family consists of dried fish, butter, sour whey, kept till fermentation takes place, curds, and skier—a very peculiar cheese, unlike any I ever tasted—a little mutton, and rye bread." As might be expected, he thinks this meagre fare is not very conducive to health. Scurvy, leprosy, elephantiasis, and all cutaneous disorders are very common, while the practice of mothers leaving off nursing their children at the end of three days and feeding them with cow's milk instead results in a frightful mortality among the babies; and if they could only mix more fat with this food, throw in some bacon from time to time, and then add fresh cabbages or other equally edible vegetables of that kind, they would have less of these troubles and more of that mental vigour and bodily health that enables the woman to act, like her congener, the beast, and feed her own offspring. But these accessories or ingredients are either not cultivated in, or are not producible by, the soil of Iceland, and so we see that soil and climate—in other words, factors over which we have little or no control—are more responsible for these errors or defects than are those who are obliged to live on or under both.

Dwelling on the difficulties with which mountaineers have at times to struggle for a subsistence, the writer of "Two Months in the Highlands," p. 45, tells us that "planters in the West Indies were in the habit of feeding their slaves on what was called broken herrings—that is, fish not properly cured," and Burton assures us ("Abu Kuta and the Cameroons")* that "West African coolies must work under the lash from 4 p.m. to 3 a.m. upon four ounces of boiled yam or plantain. Two such meals will probably be allowed them whilst they are pulling two hundred miles. They are," he adds (and no wonder), "mere anatomies. They will rifle the pails" (and, again, no wonder) "for what the ship's pigs refuse, and remember," he continues, "all this is in a time of plenty." Of a truth "Man's inhumanity to man has made countless thousands mourn," and we know from Carleton ("Tales and Stories of the Irish Peasantry," p. 307, &c.,† that at the very time that "everything in the shape of an esculent was disappearing from the fields in Ireland, and while feeble women were picking up chicken-weed, nettles, sorrell, bugloss, presagh, and sea-weed" for food, "a profusion of this latter was flying, day after day, from her fertile bosom, with the wanton excess of a prodigal oppressed by abundance." Verily slavery would be any day better than this, and we know as a matter of fact that slaves were well housed as well as otherwise well attended to, for their own sakes as well as for that of their owners,‡ in times past. We also believe that they, the very poor, were better off in the days of feudalism than they are now under our Poor Laws, and as a further, and I may add, final, illustration of my theme and theory, I may mention, on the authority of Mungo Park ("Travels" (Nimmo's Ed.), pp. 277-8), that "the whole inhabitants of Kullo supported themselves for twenty-nine days entirely on the yellow powder in the pods of the nitta, a species of mimosa, and upon the seeds of the bamboo-cane, which, when properly pounded and dressed, taste very much like rice." It probably possessed the same saccharine or starchy elements, and might, so far, sustain life on a pinch or for a time.

As to individual instances of this dietetic simplicity or frugality, they are and must be so common as not to call for any very minute analysis or description. I will, however, mention a few, more with the view of completing my own view of the situation than of informing or influencing the intelligent reader. It is scarcely necessary to remind the latter of Spartan fare, or of the equally well-known fact that temperance of this kind was habitually taught and practised by the Stoic system of philosophy. Plutarch gives also some illustrative examples in point, and, *inter alios*, that of Cato the Censor, who drank nothing but water while he was in the army, who afterwards used to work in a coarse frock or naked as the season permitted, with his servants, as well as eat with

* I rather think that I am more indebted for this extract to an article headed "My Wanderings in West Africa," that appeared from Captain Burton's pen (?) in "Fraser" for February, 1863, than to this book.

† Alluding to the droughts and famines that sometimes decimate the inhabitants of Mongolia, M. Hill says ("Travels, &c.," vol. i, p. 13) that "when the grass on the mountain-side was devoured by the starving creatures, the depths of the earth were dug into for roots," and describing a similar state of things in Afghanistan, Dr. Bellew says ("Journal of a Political Mission," p. 230) that "the poor could get no flour at all, and for several months subsisted on clover and lucerne, wild herbs and mulberry leaves, which they as often ate uncooked as cooked," and this story of the "Grazers" may not, after all, be so strange or incredible as would at first appear.

‡ Mr. Olmstead quotes as follows in his interesting "Seaboard Slave States," p. 691, from an advertisement in the *Daily Georgian*, as to the food of slaves:—"Weekly Allowance.—They (the slaves) will be provided with three and a half pounds of pork or bacon and ten quarts of goverd seed corn per week, lodged in comfortable shanties, and attended by a skilful physician," and oh! how many of our poor dock or other London labourers would jump at such terms? How many, indeed—thousands!

them "of the same kind of bread" afterwards, and who finally wound up the day "in eating a dinner prepared without fire, and a spare, frugal supper." Manius Curius Dentatus, who was thrice honoured with a triumph, was found by the Samnite ambassadors dressing turnips in his chimney corner, and he tells a story of Pompey the Great, erewhile master of the whole Roman world, which is worth quoting in this connection. It runs to the effect that "in a great illness, when his appetite was almost gone, the physician ordered him a thrush. His servants, finding that there was none to be had for love or money, were informed that Lucullus had them all the year in his menageries. This being reported to Pompey, he said, 'Does my life depend upon the luxury of Lucullus?' Then, without any regard to the physician, he ate something that was easy to be had;" and if the curious reader will only look into Gibbon, he will find that Julian the Apostate—as he was called—was on equally frugal thoughts intent. So were Judas Maccabæus, Prince Rupert, Falkland, and scores—hundreds, nay, thousands—of other less-known or noted personages; and we all, I fancy, become more or less frugal in our eating—or even in spite of ourselves—as age advances, or the digestive powers lose their early edge or pristine vigour.

On looking over Spinoza's papers after his death, "it was found," says the late Mr. Lewes ("A History of Philosophy," vol. ii., p. 185), that "one day his expenses amounted to three halfpence for a *soupe au lait*, a little butter, with three farthings extra for beer. Another day, gruel with butter and raisins, which cost him two pence halfpenny suffices for his wants," and after appraising the income of a German gentleman at about half that of a journeyman tailor in our own country," Mayhew intimates ("Op. Cit., p. 96), that "potato-messes and milk soups, . . . rotten cabbages, dried herrings, and barley broth make up, with black bread and hard-boiled eggs, the articles usually partaken of by the citizens, &c.," of the Thuringian capital, in which he lives, and if this is not a meagre fare I don't know what constitutes *that* at all.

Speaking of the late Brigham Young "Seer, Revelator, and Prophet," Burton says ("City of the Saints") that "his life is (was) ascetic, his favourite food is (was) baked potatoes with a little butter-milk, and his drink water, . . . he never touches anything stronger than thin lager beer, and he abstains from tobacco. Yet, though upwards of 59 years—at the time, several years ago, here referred to—he did not look above 45." I am not acquainted, gentle reader, with General Booth's or Dr. Benson's *cuisine*. "Rice and boiled mutton, all piled on one large dish, a little indifferent bread, dates, perhaps a hard boiled egg or two, hashed gourds, or something of that kind, for garnish, the monarch of Thomer Cum Djouf has," says Palgrave ("Arabia," vol, i., p. 183), "no more at his table," and as to the *menu* of him who was once called by Pope "that mere white curd of asses' milk" the well-known Lord Hervey, here it is, writing to Dr. Cheyne, "the celebrated advocate for a vegetable diet," he says ("Memoirs of the Reign of George the Second," by John, Lord Hervey, vol, i., p. 48) that "in the first place I never take wine nor malt drink or any other liquid but water and milk-tea; in the next, I eat no meat but the whitest, youngest, and tenderest, nine times in ten nothing but chicken, and never more than the quantity of a small one at a meal. I seldom eat any supper, but if any, nothing absolutely but bread and water; two days in the week I eat no flesh. My breakfast is dry biscuit, hot, sweet, and green tea. I have left off butter as bilious, and I eat no salt nor any sauce but bread sauce." Though this can hardly be called a meagre fare, in the strictest sense of that phrase, it is certainly not a robust or indigestible one. Its selection and employment show great discernment as well as great self-control on the part of our hero, and it were to be desired that, in these respects at least, if in no other, he had more imitators in our midst than would now appear to be always the case.

Having thus endeavoured to illustrate or classify the several dietaries used in the world, so far as that was possible from my own reading or others' observations on the spot, or so far as was contemplated in my headings, it only remains for me to say that I do not feel called upon to enter on any further defence or exposition of them or of their application to our own insular requirements. I have done so to some extent already, as circumstances suggested at the time, or as the occasion seemed to me to require, and these pages are not fitted for abstruse chemical explanations or elaborate physiological developments. Moreover, I gave, as well as I could, chapter and verse for the statements or quotations I made, and the intelligent reader is just as capable of interpreting or verifying these as I am. It is for him, rather than for me, to say how far they bear on or deviate from the issues in hand—one at least of which was that "what's one man's meat, may be, is another man's poison."

Another of my objects in this and preceding papers was to show with Buckle, Carl Ritter, Montesquieu, and others, that "the character and situation of countries, as well as their natural features, operate upon the inhabitants of those countries, influence their development and the functions they fulfil," and it is obvious that the inhabitants of these or of any other countries must be the best judges of their own requirements. This being confessedly so, we ought not, I submit, be too censorious about their practices, or too eager to thrust our notions of propriety or our standards as to feeding upon them. We ought, on the contrary, to try to improve on their experiences, and see how far some of the substances they employ may be utilized, in these cruel days, among ourselves. Should any hint of mine, any casual allusion or unfamiliar quotation contribute, in however small a degree, towards this end, should, in other words, the facts disclosed within help in any wise to gladden the hearth or increase the contents of my poorer brother's pot, I will be more than repaid for the trouble this compilation (and it is little more) has cost me.

WHAT A TON OF COAL YIELDS.—A ton of coal yields about 8,000 cubic feet of gas and 1,500 pounds of coke. The purification of the gas furnishes 45 gallons of ammonia water, from which is obtained sulphate of ammonia for agricultural purposes, and about 130 pounds of tar. It is here that the operation becomes especially interesting, for from this last named product are obtained 70 pounds of pitch, 18 of creosote, 9 of naphtha, 13 of heavy oils, 6 of naphthaline, 4 of naphthol, 2 of alizarine, about 1 each of phenol, aurine, and aniline (the substance to which we are indebted for so wonderful colours), 10 ounces of toluidine, 6 of anthracene, and 12 of toluene. Finally it will interest photographers to know that hydroquinont, that product that has been so much spoken of recently, and which was at first obtained from cinchona, is now obtained from coal by industrial processes.—*La Science en Famille.*

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

CHILDREN IN SUMMER.

OF all the vexatious problems that ever present themselves for settlement within the sacred precincts of home, none are at times more perplexing and distressing than that of how to feed the baby. The following letter from a trained nurse appeared in a contemporary; and as nurses are ever with the invalids, their observations are ofttimes deserving of more attention than they receive. We reproduce the communication "verbatim et literatim."

"I notice that, in your useful article on 'Children in Summer,' in your July number, you recommend the giving of peptonized milk to infants recovering from summer diarrhœa, and I want you to let me say, for the benefit of your readers, of how great advantage I have found this plan of giving milk already partially digested to babies deprived of their natural nourishment, of whom it has been my lot to nurse a large number, both in sickness and in health. On account of the amount of casein or cheesy matter present, cows' milk has to be diluted with equal parts of water for the little infant of a few weeks; but even so diluted, the addition of acid shows that the milk is thrown into heavy curds, which are tough and indigestible, instead of forming fine feathery flakes, as is the case with human milk. Now, the peptonizing powders (zymine), which are made from the digestive ferments of certain animals, act upon the milk so as to partially digest it and cause it to flake in the same way as mother's milk, while not interfering with the flavour, but leaving it sweet and palatable. As you have not given the recipe for preparing milk in this way, permit me to do so:—

"Into a clean jar or bottle pour a pint of fresh milk, half-pint of cold water, and one of Fairchild's Peptonizing Powders. Set in water as hot as the hand can bear, and let it stand for twenty minutes, shaking occasionally. It may now be used. When not for immediate use, it should be boiled for two or three minutes, or else kept on ice, to prevent the milk from becoming bitter. Keep in a cool place. (Boiling stops peptonization permanently, cold simply suspends it.)

"Professor Gamgee, M.D., F.R.S., has said: 'Peptonized milk can almost invariably be supported by the stomach, though it reject all other aliment'; and my experience has fully borne out this statement, both in the case of feeble infants and of older children suffering from wasting diseases. For children of a year and upwards I have found the following recipe for beef-tea of the greatest possible service. The quantity given varies from a teaspoonful at a time, according to the age and condition of the little one:—

"Add a quarter of a pound of 'very finely minced' lean beef to half a pint of cold water. Cook over a gentle fire, stirring till it boils well. Add half a pint more of cold water, and the cup-like depression in the cork six times full of Zymine, and four times full of bicarbonate of soda. Set in a warm place (100 degs. Fahr.) for three hours, shaking occasionally, then boil quickly for two or three minutes. It should be strained or clarified with white of an egg. Season to suit the taste, adding condiments as permissible.

"I hope you will not think it presumptuous of me to write to you on this matter, but I think my experience may be of some use to others. I enclose my name and address, and, thanking you for many hints I have got from your paper,—I am, yours truly, A TRAINED NURSE."

INJURIOUS INFLUENCES OF CITY LIFE.

BY WALTER B. PLATT, M.D., F.R.C.S., (ENG.).

(Concluded.)

THE noise of a city is at first painful and confusing to one unaccustomed to it. We do not maintain that a really bad effect is at once apparent upon most individuals. When people are subjected to such a variety of influences, it is difficult to isolate and measure the result of one. Not infrequently a change from a noisy to a quieter part of the town is most beneficial to especially sensitive individuals. Much noise is unnecessary to the performance of most useful work. It means waste, wear and tear in the majority of cases.

The most perfect are the most noiseless machines, and this applies to the social organism as well. The rattle of badly-built wagons over poor pavements, the ringing of milkmen's bells, or the jangling of those on street-cars, street cries, and the like, have long been recognized as evils in European cities, and suppressed in many places. In certain streets in Berlin heavily laden carts and wagons are never allowed, and in others only when the horses walk. In Munich the street-cars have no bells. Recently in New York a measure has been under favourable consideration to abolish the ringing of milkmen's bells, and to have those on street-cars taken off. The immense relief to the residents of a street in Baltimore, where the cars run every three minutes in each direction, when the bells were omitted for several weeks on account of sickness in that street, will not soon be forgotten.

Every one will instinctively call to mind boiler-makers and workers in factories as instances where men work for years in incessant din without injury. These are instances like those of pearl-divers and miners, and show rather what can be endured by some than what is best for most. On the other hand, we have all known individuals in whom slight noises cause absolute pain. The blowing of locomotive and factory-whistles within city limits has been abolished in some of our largest municipalities. The loud ringing of church-bells at all hours of the day and night, in this age, when every one knows the hour of prayer, hardly recommends the religion of good-will to men. All these unnecessary noises add more weight to the overtaxed nervous systems of many men and women who cannot escape them. It is certain that with the increasing intensity of city life, and its consequent strain, such things must be lessened, as far as compatible with business interests. Suitably enforced municipal regulations can do this. Elevated railroads should not be permitted in streets where men and women live, underground roads should take their place where it is possible. Certain streets, or blocks at least, should be reserved for business purposes, others for dwellings alone, and heavy wagons allowed only in the first named, unless they are to leave their freight in the block. Rattling irons and chains should not be allowed. Pavements should be thoroughly laid and then kept in repair. Londoners find asphalte the best pavement for all but the very heaviest traffic, in spite of its being very slippery in wet weather. The advantages far outweigh this one disadvantage. Horses can draw much heavier loads than on Belgian block, with less noise, while they are the cleanest pavements known. Those called asphalte pavements in America are a poor imitation of what our

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English brethren enjoy. Intelligent, honest city government, in a word, will give us health as well as increased business facilities.

Jarring is an equally hurtful influence of city life that has not received the attention it deserves. Combined with the two preceding, it completes a formidable trio. Very few realize the fact that we who were designed to tread upon soft Mother Earth have become a race of dwellers upon rocks and stones. In walking, the jar of the fall of our one hundred and fifty pounds comes entirely upon the heel, since it first strikes the ground. The ball of the foot and the instep serve only to raise us for another downfall—small, it is true, but equal to the weight of our bodies falling through one half to one inch in a little less than one second. This shock would be sudden and unbearable but for the arrangement of the bones, muscles, and ligaments of the lower limb. The chief elastic distributing springs are the mass of muscles on the front of the thigh and that on the front of the leg. These deaden the shock much as two great India-rubber bands. The ankle and hip-joints help but little, while the curves of the spine and the disks of cartilage between the vertebræ aid a great deal in lessening the impact of the body with the ground.

This shock in ordinary walking is less than if the body be raised one half or three-quarters of an inch on the toes, and then suddenly let fall upon the heels, since the limb which is put forward is somewhat like the spoke of a wheel, if we imagine a wheel consisting of an axle and spokes alone. The brain bears almost the same relation to its containing bony case, the skull, that the ball does to the cup, in the old fashioned cup-and-ball, where the ball is tossed into the air and caught in its cup with a sharp shock.

If any one doubts that there is a distinct and decided *jar* of the brain with each step, let him walk a hundred yards when the brain is slightly over-sensitive from a bad cold or headache, and he will observe the pain each step causes. Or, more scientifically, let him place (as I did recently) a pedometer inside his hat, and it will register every time his heel strikes the ground.

Fortunately the brain, in health, does not perceive these slight jars to its own substance, and interpret them as pain. Nature provides one more anatomical precaution against jarring by slinging up the brain in its spherical hammock, the dura mater. Now, in many people, the ill effect of these thousands of slight daily concussions accumulate, and after a time concur with other causes in producing that state of disability called nervous exhaustion. An observant man may see on one side of any stone or brick sidewalk in the city wherever there is soft ground near by, a well-worn path which will be instinctively chosen by pedestrians. If we test ourselves we shall find the chief reason of our choice is because it jars us less to walk there than upon stones and bricks.

Most healthy men endure these concussions for a long time without very serious effects, while others who suffer from them are entirely restored by enforced rest, provided the circulation be at the same time maintained. It is not improbable that some of the long cobweb-like processes of the nerve-cells are damaged by being shaken for months and years over city pavements.

Statistics upon such a matter are almost out of the question where insufficient exercise, noise, and jarring of the nerve-centres combine with other influences to overthrow the individual or to lessen his productive powers.

If it be then injurious to some to walk daily for years upon stones and bricks, and less so upon earth or softer material, this can be remedied in two ways. First, by changing the material of our sidewalks to a more elastic one. Something is needed for pedestrians which will be durable yet not hard. Some of the varieties of asphalte composition are elastic, but none of them sufficiently durable, as far as I know.

Nature suggests a remedy in a second way, in the covering of the human heel itself, where we find a very elastic pad one half an inch thick, to lessen the jar of walking. If we replace the perfectly hard boot-heel by an elastic India-rubber one, we provide an inexpensive and practical remedy, which it would cost the wearer but a few cents a month to keep in repair. This cover has the additional advantage of lessening the noise of hurrying feet, and preventing broken bones in the winter season. If, now, our city authorities will, at some future time, provide gymnasia as well as libraries and parks, make our large towns quiet as well as clean, and give us sidewalks more like Mother Earth, we believe such a favoured community will produce more, and lead collectively a happier life, than most of our modern towns.

Summer Risks.—It is difficult not to believe that before the summer has finally passed, the sun will have some opportunity of exercising an influence upon health. While we look forward to sunshine as a boon, we cannot be unmindful that it is capable of giving origin to causes of ill-health in those localities where, through negligence, animal and vegetable matters are allowed to pass into a state of decomposition. The more recent observations concerning summer diarrhœa tend to show that the organisms which result from such changes are responsible for high mortality among infants; it behoves, therefore, every householder to protect his family against the risks of injury from decomposing matter. The dustbin cannot be exempted from suspicion of playing an active part in the production of disease. The storage of large quantities of animal and vegetable refuse in close proximity to inhabited rooms is only permitted in default of a reasonable sanitary administration; but householders can do much to diminish risk by the use of properly-constructed receptacles, by limiting the material which is placed within them, and by insisting on the frequent removal of their contents. Dustbins should not be larger than is necessary, should be impervious to moisture, and the contents should not be exposed to the sun; movable, galvanized-iron receptacles with covers are best for the purpose, and these should not receive any other material than ashes or dust. Bones, and animal and vegetable matter generally, should be burnt; this can be done without inconvenience and without nuisance if dried by heat before being actually placed on the fire; in this way it is possible to ensure that the dustbin shall not become offensive, while, at the same time, the amount of matter which it has to receive is greatly reduced in bulk.

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The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

THE STUFF THAT DREAMS ARE MADE OF.

By MEREDITH CLYMER.

SECOND PAPER.

MANY interesting cases of "most fast sleep," sleep "in spite of thunder," are of trustworthy record. At the attack on Rangoon, the captain of one of the steam frigates actively engaged slept for two hours near one of the working guns. At the battle of the Nile boys fell asleep on the decks from sheer fatigue. During long marches cavalrymen sleep soundly. Napoleon, it is said, could sleep in the midst of battle. The sudden cessation of an accustomed noise will wake the sleeper, as well as calling his name. Dr. Carpenter says that Sir Edward Coddington told him that, as a youth, serving as signal lieutenant, he often remained on the lookout fifteen to twenty hours, and when relieved and he went below, his sleep was so sound that no noise could wake him, though trial was often made; but when the word "signal" was whispered in his ear he would rouse at once. The tired doctor is quick to hear the first tinkle of his night-bell, the tick of the instrument wakes the drowsy telegraph operator, and the weary mother starts up from sleep at a moan or rustle of her babe. Habit and periodicity are immanent in the nervous system. We awake at the accustomed time, as well as at an unusual hour fore-set on going to bed. Here an impression has been registered in the waking state, and is liberated at a given moment with the exactness of an alarm-watch.

A much-debated question is, whether there is ever total suppression of ideation in sleep; whether the circuit of thought is open, closed, or works fitfully. The pure metaphysicians and the psycho-physicists are not at one on this point:

"*Mulciber in Trojam, pro Troja stabat Apollo.*"

Outside of dreaming, there is good right to hold that latent mental energy—unconscious cerebration—goes on, adjusted to the sleep-value. Many a plaguing problem and intellectual act have been carried out during sleep. Charlotte Brontë, when stalled in a tale, would think the matter over before falling asleep, and the next morning all would be clear.

The physical mechanism of sleep is obscure. All the theories are unsatisfying, from the "labefaction of the *animus*" of Lucretius to the modern hypotheses of a "lessened blood-supply" of Blumenbach, the "deficiency of animal spirits" of Haller, the "cerebral collapse" of Cullen, the "exhausted irritability" of Brown and Erasmus Darwin, the "accumulation of the sewage products of the body," the "excess of lactic acid" of Preyer, "brain-blood stasis," the "using up the potential energy of the nervous centres," and the latest speculation of Wundt, the "inhibition of the organ of apperception." To expose the shortcomings of these theories would lead us too far afield. So no scientific solution can be given of the ground nature of sleep. Its phenomena can be studied intelligently and profitably, but the *noumenon*—the *ding an sich*—shuns us. The objective data can be interpreted, but the subjective *processus* is hidden.

On awaking we quickly know, as the rising senses light up consciousness, how we have slept: whether we have had the *somnus humanus*—the "mortal good sleep," restful and restoring, nature's soft nurse—or an unrefreshing night of slumbering agitation. "Nothing," says Hippocrates, "is so destructive of human nature, or wastes the spirits, blood, and strength more than want of sleep." Sleeplessness owns so many different causes that it is not surprising, when the right one is not sought for and found, and the rule-of-thumb treatment is followed, that it so often proves past cure. Mental and physical fatigue, "days with toil," are supposed to give "nights of sleep;" but such is not always the case. An over-fagged brain or body is often a sure hinderance of sleep, and brings a night of "tumbling and tossing."

II. Dreaming may be defined a mind-drama, performed during sleep, in which the chief actor is Fancy, who plays many parts. Chaucer called dreams

> "but interludes, which Fancy makes.
> When monarch Reason sleeps, this mimic wakes,
> Compounds a medley of disjointed things."

Milton says that when

> "nature rests, and Reason
> Retires into her private cell, . . .
> Oft in her absence mimic Fancy wakes
> To imitate her, but misjoining shapes
> Wild work produces."

"In waking life," wrote Aristotle, "we all have a world in common, but in dreams each one has a world of his own." Sir Walter Scott styled dreams "the deceptions of imagination when reason drops the reins." "I know," says Oldbuck, "no difference between them and the hallucinations of madness; the unguided horses run away with the carriage in both cases, only in the one the coachman is drunk, in the other he slumbers."

In the dreaming state there is a suspension of will-control over the thought-current, which flows on in incoherent series; there is a travesty of reason, and the incongruities of the dream-tissue are not corrected by judgment. Attention and reflection are wanting. Dr. Johnson had a contest of wit in a dream. Said he: "Now one may mark the effect of sleep in weakening reflection; for had not my judgment failed me I should have seen that the wit of this supposed antagonist, by whose apparent superiority I felt myself mortified, was as much furnished by me as that I had been uttering in my own character."

From what source is the dream-food supplied? Commonly from two; namely, revived residua of concepts perceived during a recent waking state, and stored in the memories; and immediate sensory impressions

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"ISABELLA TEWAITES."

transmitted by the end-organs. The frequency of the first—the survival of fresh events—has been remarked by Cicero and Lucretius :

"What fills men's minds they dream o'ernight ;
The lawyers plead, the warriors fight,
The sailors think of storms."

Mercutio tells how lovers dream of love, courtiers of suits, lawyers of fees, parsons of another benefice, and soldiers of cutting foreign throats, of breaches and ambuscadoes. The dreams of animals would seem to be of the same order. Lucretius describes racers starting in their sleep, as if eager for the course; baying, panting hounds, with quivering limbs, pursuing in the mind's eye, the stag; the house-dog, asleep on the hearth, growling and barking at the supposed intrusion of the stranger. So Scott, in the "Lay of the Last Minstrel" :

"The stag-hounds, weary with the chase,
Lay stretched upon the rushy floor,
And urged, in dreams, the forest race."

Hounds in sleep, according to Chaucer, "will open for the prey," and Dryden says :

"Little birds in sleep their songs repeat."

The contents of a dream, taking shape and tone from abiding experiences, are often an odd motley; ill-matching thoughts, past or late, madly jostle one another, tumbling clubbed into the stream of fancy.

"such stuff
. . . dreams are made on."

In the second series present sensory excitations furnish the suggesting material, which is usually absurdly transfigured. Here the sensations are not, as in the waking state, graduated to the stimulus, but often grotesquely heightened. These dreams are in terms of touch, hearing, smell, taste, and sight. The great area of the complex tactual sense gives it first place as a factor, from space capacity, to receive excitants. Any modification of the sensibility of the skin, or the action of an unusual stimulus, as the entanglement of the hands or toes in the bed-clothes, may provoke a dream-image, whimsical and "in dimension grossly clad," but plainly suggested. Simon dreamed of a dice of huge bulk; waking, he found that he held part of the sheet twisted in such a way as to give the notion of a cubic body about the size of the dice pictured in his sleep. A friend dreamed that he was carrying a corpse in his teeth, carefully steering it through three rooms, shunning all obstacles, and feeling the clammy body hitting his naked skin. Depositing his horrible load he instantly waked, and discovered his open hand lying on the marble top of the night-table.

The sense of hearing has the next place in begetting dream freaks from physical factors. The writer recently dreamed of a thunder-storm; no lightning was seen, but peal after peal heard, the last awaking him, when he found a garbage cart going by in the street, with its rattling, pounding noise. Music played near the sleeper has suggested a dream of a concert of seraphs. The interesting experiments of Prévost, D'Hervey, and Maury show the influence of irritants coming through the inlets of the senses of smell and taste in causing dream-forms. The odour of Cologne water carried M. Maury to the shop of Farina, at Cairo. Burning a match under his nostrils sent him to sea in a vessel whose powder-room blew up.

Bodily ailments and noxious humours that infest the blood give rise to and shape dreams, the perverted sensations being seized upon by hazy consciousness and read awry. An eminent writer relates that when young he was fond of books of travel. One night, after reading, he dreamed he was aboard a vessel anchored off a foreign coast. After a quarrel with his captain they both went ashore to settle the matter. Thrice the captain's ball struck him at the some spot in the forehead, yet he did not fall. After the third fire he awoke, and found that he was suffering from a severe neuralgia at the point his antagonist's ball had entered.

Chaucer declares that dreams

"Are from repletion and complexion bred.
From rising fumes of indigested food."

So Monkbarns accounts for the professor's disturbed sleep :—

"Considering that the Illustrissimus ate a pound and a half of collops, smoked six pipes, drank ale and brandy in proportion, I am not surprised at his having a fit of the nightmare."

A supper of Welsh rare-bit, or some like indigestible food, followed by incubus, with an elephant or an ancestor doing a war-dance on the stomach, or a struggling with a giant on your back, is probably within the experience of many readers.

CARE IN SELECTING THE SUMMER HOME.

THE importance of examining closely the plumbing, the cellar, the kitchen, and the water supply cannot be overestimated. A prominent physician recently deprecated in strong terms the little care which is too often exercised by people in their choice of a summer resort, and, in the course of his conversation, said :—

"It seems to me that parents exercise little judgment either for their own good or for that of their children in this matter. In too many instances their selection is so bad that it would be much better for all concerned if they had remained in their city houses. The number of deaths which occur among families during their absence from home in the summer, especially among children, is positively appalling when taken in the aggregate, and in the majority of cases these deaths are due solely to the unhealthfulness of the places which have been chosen.

"It would be advisable, if possible, for one of the members of the family to make a personal examination of the surroundings of the house or locality proposed for a resting-place before the time for departure arrives, and this can be readily accomplished when its distance from the city is not great, as in the towns within a radius of forty or fifty miles.

"One of the worst features of the ordinary country hotel or boarding-house is its plumbing, for generally there is none at all or next to none, and where the plumbing is bad, there disease is sure to come sooner or later.

"Especial attention should be directed to the water supply, and a careful scrutiny of its source should be made. If it comes from a spring near the house, the presumption is that the water will be clear and pure; but if, on the contrary, it is discovered that it comes from a running stream, it would be advantageous to investigate the course of the stream, to see that the water is not likely to suffer from any impurities upon its banks. The location of the well and cesspools should also be learned, for if these are not separated from each other by a distance of seventy or eighty yards, it is possible for the former to be contaminated by the latter, especially when the soil is light and porous.

"Watch closely for signs of filthiness in the neighbourhood of the house, for if the refuse from the kitchen

is carelessly thrown upon the ground to bake and boil in the sun, it is almost certain that disease will be the result.

"In the selection of a summer home, choose one that is not completely enveloped in shade, for it will surely prove to be damp and unhealthy. Do not take a room on the ground floor, if it is possible to avoid it, unless it is certain that the cellar underneath is perfectly dry, and do not stay longer in dark rooms than is necessary."

A propos to the above, the Iowa State Board of Health, in its monthly bulletin for June, has the following:—

"Said a father who was returning from a summer resort, where he buried four lovely children, who died of diphtheria, the result of defective drainage and polluted water: 'That hotel-keeper is as guilty of murder of my children as if he had shot them with a revolver.' As a matter of justice, the father was right; but in law, probably not. But," adds the health board, "the law ought to be such as to hold the keeper of a hotel or public resort responsible for the healthy condition of his premises, and liable for neglect to provide pure air and water for his guests. Patrons of these places should take with them an ounce vial of saturated solution of permanganate of potash, and test the water by putting half-a-dozen drops of the potash in a tumbler of it. If the water turns dark or brown in an hour, and they find cesspools within one hundred feet of the house and near the wells or water supply, they should take the first train for some other place."—*Sanitary Engineer.*

INDIA-RUBBER TREES.—The belt of land around the globe, five hundred miles south of the Equator, abounds in trees producing the gum of india-rubber. They can be tapped for twenty successive seasons without injury, and the trees stand so close that one man can gather the sap of eighty in a day, each tree yielding on an average three tablespoonfuls a day. Forty-three thousand of these trees have been counted in a tract of country a mile long by eight wide. There are in America and Europe more than one hundred and fifty manufactories of india-rubber articles, employing some five hundred operatives, and consuming more than ten million pounds of gum a year, and the business is considered to be still in its infancy.

MAGAZINES AND BOOKS OF THE MONTH. — *Babyhood* forms an interesting *repertoire* of all that should be known to and taught by mothers in the physical and mental education of children. It is really a most excellent mother's magazine. The *Housewife* offers for September a very varied programme, extending from bee-keeping and fancy needlework to gardening and the care of canaries. Messrs. Cassell send us parts 23 and 52 of their serials, *The Illustrated History of England* and *Countries of the World*, respectively. These works continue a successful educational career. *A Profitable Vacation* by Beatrix F. Cresswell (Laurie, 28, Paternoster-row, E.C.) is a somewhat impossible story of two young men who hire a piano-organ and spend a holiday in playing on the instrument; the holiday expenses being defrayed out of the pence they collect. The tale is uninteresting and stupid in the extreme. Miss Morten has collected a number of her admirable papers into volume form under the title "Sketches of Hospital Life." The work is published by Messrs. Sampson Low & Co. It is eminently readable, and should serve to interest the public widely in hospital work.

Public Health

"Health is the first Wealth."—*Emerson.*

COMFORT AND SAFETY IN THEATRES.

THERE has been no very recent disaster in the form of fire in a theatre, says a contemporary, or of a panic and crush resulting from an alarm of fire, and none of the many who have suffered from the headache and disordered digestion which results from sitting out a play in a badly-ventilated theatre have recently made public complaint of the way in which they have been treated. It seems, therefore, a proper time to call attention to what W. E. Roth calls "theatre hygiene" in a pamphlet which he has recently published on that subject, and which contains a number of suggestions which should be considered by those interested in the construction or management of theatres.

He defines theatre hygiene as the study of the best structural and decorative arrangements to be adopted in the construction and fittings of theatres, music halls, and kindred establishments; the object being the health, comfort, and safety, not only of the public, but of the players and other people employed.

In most civilized countries and large cities, there is more or less of an attempt to regulate the plan and construction of such places of amusement, chiefly with reference to security from fire and to provide easy egress from the building.

Such regulations are usually insufficient to secure the end desired, and are almost invariably more or less neglected. Mr. Roth's statement that "at the present moment there is not a single London theatre which structurally can be considered perfect, which obeys the prescribed regulations, and which maintains all its appliances and arrangements in thorough working order and repair," is applicable to most cities, and this is due partly to the increased cost which proper arrangements involve, partly to ignorance, and partly to the fact that buildings not planned or constructed for the purpose are converted into assembly halls or places of amusement.

Take, for example, the rule that a theatre should be free on all sides to allow free exit, to secure light and air, and to provide for a system of external balconies on each floor. How many theatres are in existence which fulfil this rule, or which could possibly fulfil it in their present locations?

The rules that scene-docks, workshops, property and store-rooms should be separated from the rest of the building by brick and fire-proof construction; that the roof, ceiling, stage and its supports and machinery, galleries, and flies should be, as far as possible, made of fire-resisting materials; and that all wood and canvas should be coated with silicate or other fire-resisting substance, are more generally observed in the new large theatres, but even in these there are many exceptions. A safety, fire-proof curtain is a common provision, but thoroughly reliable means for promptly raising or lowering such a screen in an emergency are rarely to be found. The rule for seats is that the backs should be at least two feet six inches apart between the rows, and each person should have not less than one foot eight inches by two feet four inches to himself, if he is not to go out with stiff legs, an aching back, sore knees, and a bad temper.

Taking it altogether, the most important feature in the construction of a theatre is its arrangement for

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THE principle involved in this material for both outer and under clothing is that it is cellular in structure, so that advantage is taken of the non-conducting power of the AIR (one of the best non-conducting substances known) to make it a covering for the body equally fitted for the COLD OF WINTER and the WARMTH OF SUMMER.

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OPINIONS OF THE PRESS (EXTRACTS).

LANCET, June 16th, 1888.

The idea embodied in this variety of cotton fabric for body clothing is, as the name implies, that of providing ready means of escape for perspiration as vapour, whilst affording facilities for securing next the skin the presence of a good non-conductor of heat in the shape of warm air, and thus avoiding the access of chill. And these objects appear to be well attained by the material submitted to our notice.

MEDICAL PRESS, June 13th, 1888.

The advantages of this form of structure are numerous. Articles so manufactured are light, elastic, and durable, and the air contained in its meshes, of cotton, or cotton and silk, on account of the material being a bad conductor of heat, preserves the body from vicissitudes of temperature. Perspiration passes readily through, and consequently such garments never feel wet, no matter how violent the exertion.

HEALTH, June 22nd, 1888.

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THE great usefulness of this excellent Remedy, the POMMADE DIVINE, is so well known to all who have ever applied it, that no Encomium is necessary, and to those who are yet unacquainted with its virtues, a trial in the following cases will be its best recommendation:—

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If a little be well rubbed in for a few minutes on a Bruise or Pinch, it will prevent Blackness. Will also cure Scalds and Burns, applied directly; and Rheumatic and Gouty Pains fixed in any part.

N.B.—No woollen of any kind should be applied to the parts affected, nor any metal (except silver) touch the Pommade. It will retain its virtues many years, and is therefore very useful to all Travellers, particularly Gentlemen of the Army and Navy.

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As highly useful family medicines for that most distressing of complaints, Hæmorrhoids (or Piles), Bayley's Remedies have long enjoyed a high reputation. These remedies consist of specially prepared Pyrmont Tablets for invalid use, and of a Pyrmont Liniment for outward application. The tablets are compounded on the principle of the famous Pyrmont waters, which have been so highly recommended in cases of liver complaints, to the presence of which piles are often due, as well as in cases of the latter ailment itself. The liniment is made on allied principles. From an examination of these tablets and of the liniment, we are able to assert that they contain nothing calculated to produce untoward effects in the most delicate constitution, while they are likely to prove most beneficial in mild and severe cases alike. The ease with which the remedy may be taken—the tablets being agreeable to taste, and being merely allowed to dissolve in the mouth—will recommend this preparation in the eyes of those especially who have run the gamut of the many drugs employed for the cure of hæmorrhoids. We recommend a trial of Messrs. Bayley's Tablets, &c., which are to be obtained at 17, Cockspur-street, London, W.—*Vide* HEALTH, *April 8th*, 1887.

Prepared by BAYLEY & COMPY., Perfumers,

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PRICE LISTS FREE ON APPLICATION.

ventilation. This can only be satisfactorily effected by mechanical means, by the use of some form of fans or blowers, and there should be separate supplies for the stage and for the auditorium. The difference in comfort and attractiveness between a well and an ill-ventilated theatre is very great, and is beginning to be taken into serious consideration by many persons in making choice of an evening's entertainment. For the sake of seeing some particular star or play, a person may for once submit to the foul, stuffy atmosphere of some of our leading theatres, and take the ensuing headache, want of appetite, sore throat, &c., as part of the bargain; but he will not do it twice if he can avoid it, and will take his visiting friends, as a rule, to a place where they can be comfortable.

While it is often difficult to provide a satisfactory fresh-air supply in an old building, great improvement on the usual conditions of things in this respect can always be made; and for new buildings the provision required for good ventilation adds little to the cost, and the methods are now well understood.

From the point of view of health and comfort, electric lighting is undoubtedly the best, and its adoption is merely a question of cost. Electric lamps are especially desirable for the footlights, and are highly appreciated by actors. Many other minor points should be considered in theatre hygiene, such as the arrangement of retiring and cloak-rooms, of stairs, or dressing-rooms for the actors, &c.; but for these we must refer to Mr. Roth's pamphlet, in which they are duly considered. His conclusion that the best means of supplying the public with healthy and safe structures is the monopolizing of all theatres, concert halls, &c., by the State, as is done to some extent in a few Continental cities, is not one that will find favour here; but his recommendations as to construction, &c., are none the less valuable.

The Infection of Scarlatina.—In recording his experiences for the past year, Mr. M. A. Adams, the medical officer of health of Maidstone, expresses his belief that even in the mildest form of scarlatina the duration of infection is at times very prolonged. Six weeks from the first appearance of the rash is a very common term during which to maintain the isolation of scarlatina patients; it is the minimum period commonly required in most infectious hospitals, and Mr. Adams was himself at one time inclined to adopt the belief that this might be regarded as a safe limit to the period of infectiveness, and this the more so because it generally includes a period which goes well beyond the cessation of all desquamation. But on several occasions Mr. Adams has known the disease to be communicated by a convalescent who retained no obvious signs of ill health or infection as late as the forty-third day; and, in his opinion, the infection has in such cases been communicated by the act of kissing. He would therefore make it a rule to maintain isolation for a minimum period of seven weeks, and even then to give a caution against the habit of kissing. The retention of infection about the fauces for prolonged periods is well known to take place in the case of diphtheria, and it is possibly at times the same in scarlatina, even when no obvious indications of any throat affection remain. There are, however, cases in which patients returning from hospital have been credited with conveying the infection, when it is much more likely that the mischief has been induced by the bringing out of clothing which the patient wore a few days before being isolated, and which escaped disinfection.

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

The Breathing of Animals.—Smaller animals have, as a rule, a greater intensity of respiration than larger ones. In small singing birds the intensity is very remarkable, and it will be seen that they require ten times as much oxygen as a hen. On the other hand, the intensity is low in cold-blooded animals. Thus, a frog requires 135 times less oxygen than a small singing bird. The need of oxygen is, therefore, very different in different animals. Thus, a guinea-pig soon dies with convulsions in a space containing a small amount of oxygen; while a frog will remain alive for many hours in a space quite free of oxygen. It is well known that fishes and aquatic animals generally require only a small amount of oxygen, and this is in consonance with the fact that sea-water contains only small quantities of this gas. Thus, according to the elaborate researches of my friend, Professor Dittmar, on the gases of the sea-water brought home by the "Challenger" Expedition, collected in many parts of the great oceans, and from varying depths: "The ocean can contain nowhere more than 15·6 cc. of nitrogen, or more than 8·18 cc. oxygen per litre; and the nitrogen will never fall below 8·55 cc. We cannot make a similar assertion in regard to the oxygen, because its theoretical minimum of 4·30 cc. per litre is liable to further diminution by processes of life and putrefaction and processes of oxidation." As a matter of fact, a sample of water from a depth of 2,875 fathoms gave only 0·6 cc. per litre of oxygen, while one from a depth of 1,500 fathoms gave 2·04 cc. per litre. Taking 15° C. as an average temperature, one litre of sea-water would contain only 5·31 cc. of dissolved oxygen, that is about 0·5 cc. in 100 cc. Contrast this with arterial blood, which contains 20 cc. of oxygen in 100 cc. of blood, or there are about forty times as much oxygen in arterial blood as in sea-water. At great depths, the quantity of oxygen is very much less, and yet many forms of life exist at these great depths. Fishes have been dredged from a depth of 2,750 fathoms, where the amount of oxygen was probably not so much as 0·06 cc. per 100 cc., or 300 times less than that of arterial blood. Making allowance for the smaller quantity of oxygen in the blood of a fish than that of a mammal, it will still be evident that the blood of the fish must contain much more oxygen than exists in the same volume of sea-water. No doubt we must remember that the water is constantly renewed, and that the oxygen in it is in the state of solution, or, in other words, in a liquid state. But the question remains, where do these deep-sea creatures obtain the oxygen? Probably, by a method of storage. Biot has found in the swimming-bladder of such fishes 70 volumes per cent. of pure oxygen, a gas in which a glowing splinter of wood is relit. This oxygen probably oxygenates the blood of the fish when it plunges into the dark and almost airless depths of the ocean. Aquatic breathers, however, if they live in a medium containing little oxygen, have the advantage that they are not troubled with free carbonic acid. One of the most striking facts discovered by the "Challenger" chemists is that sea-water contains no free carbonic acid, except in some situations where the gas is given off by volcanic action from the crust of the earth forming the sea-bed. In ordinary sea-water there is no free carbonic acid,

because any carbonic acid formed is at once absorbed by the excess of alkaline base present. Thus, the fish breathes on the principle of Fleuss's diving apparatus, in which the carbonic acid formed is absorbed by an alkaline solution. There is nothing new under the sun. The fish obtains the oxygen from the sea-water, no doubt, by the chemical affinity of its hæmoglobin, which snatches every molecule of oxygen it may meet with, while it gets rid of its carbonic acid easily, because there is not only no tension of carbonic acid in the sea-water to prevent its escape; but there is always enough of base in the sea-water to seize hold of the carbonic acid the moment it is formed. If we could get rid of the carbonic acid of the air of expiration as easily, we could live in an atmosphere containing a much smaller percentage of oxygen.—*Professor McKendrick.*

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The Climate of Siberia.—George Kennan, in the *Century Magazine*, says, "It is hardly necessary to say that a country which has an area of five and a half million square miles, and which extends in latitude as far as from the southern extremity of Greenland to the island of Cuba, must present great diversities of climate, topography, and vegetation, and cannot be everywhere a barren arctic waste. A mere glance at a map is sufficient to show that a considerable part of Western Siberia lies farther south than Nice, Venice, or Milan, and that the southern boundary of the Siberian province of Semirechinsk is nearer the Equator than Naples. In a country which thus stretches from the latitude of Italy to the latitude of Central Greenland one would naturally expect to find, and, as a matter of fact, one does find, many varieties of climate and scenery. In some parts of the province of Yakutsk the mean temperature of the month of January is more than 50 degs. below zero, Fahr., while in the province of Semipalatinsk the mean temperature of the month of July is 72 degs. above, and such maximum temperatures as 95 and 100 degs. in the shade are comparatively common. On the Taimyr peninsula, east of the Gulf of Ob, the permanently frozen ground thaws out in summer to a depth of only a few inches, and supports but a scanty vegetation of berry bushes and moss, while in the southern part of Western Siberia watermelons and cantaloupes are a profitable crop, tobacco is grown upon thousands of plantations, and the peasants harvest annually more than 50,000,000 bushels of grain. The fact which I desire especially to impress upon the mind of the reader is that Siberia is not everywhere uniform and homogeneous. The northern part of the country differs from the southern part quite as much as the Hudson Bay territory differs from Kentucky, and it is as great a mistake to attribute the cold and barrenness of the Lena delta to the whole of Siberia as it would be to attribute the cold and barrenness of King William Land to the whole of North America. To the traveller who crosses the Urals for the first time in June nothing is more surprising than the fervent heat of Siberian sunshine and the extraordinary beauty and profusion of Siberian flowers. Although we had been partly prepared, by our voyage up the Kama, for the experience which awaited us on the other side of the mountains, we were fairly astonished upon the threshold of Western Siberia by the scenery, the weather, and the flora. In the fertile, blossoming country presented to us as we rode swiftly eastward into the province of Tobolsk there was absolutely nothing even remotely to suggest an arctic region. If we had been blindfolded and transported to it suddenly in the middle of a sunny afternoon, we could never have guessed to what part of the world we had been taken. The sky was as clear and blue and the air as soft as the sky and air of California; the trees were all in full leaf, birds were singing over the flowery meadows and in the clumps of birches by the roadside, there were a drowsy hum of bees and a faint fragrance of flowers and verdure in the air, and the sunshine was as warm and bright as that of a June afternoon in the most favoured part of the temperate zone."

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The Geography of Intellect.—There are few things which strike one more in an analysis of this kind than the large number of distinguished men who have been born abroad. We have always had a name for importing our artists, so that it is not wonderful to find that a large number of the names which adorn our Academy catalogues were born far from the country which they now enrich with their works. Alma Tadema was born at Dronryp in Holland. Calderon first saw the light at Poitiers. Dobson hails from Hamburg. Herkomer is a native of Waal in Bavaria. Ouless is a Channel-Islander, as is Millais by descent. Poynter was born in Paris, Val Prinsep in India, and Yeames at Taganrog in Russia. Of other celebrities, living and dead, Thackeray was born at Calcutta, Professor de Morgan in Java, Sir Drummond Wolff at Malta, Professor Monier Williams at Bombay, and Hermann Vezin in Philadelphia. Guernsey has produced Peter Renouf and Professor Bonamy Price. Sir Lyon Playfair comes from Meerut, Florence Nightingale from Florence, Sir Austen Layard from Paris, the late Leone Levi from Ancona, Max Müller from Dessau, Canon Farrar from Bombay, the late Mr. Chenery from Barbadoes, Cowen the composer from Jamaica, and Grant Allen from Kingston in Canada. On reviewing our general results, one or two remarkable facts become apparent. If a line be drawn through the centre of Lincolnshire, it will be found that the poetry of the nation is to the southern side of that division. Tennyson, Swinburne, Browning, William Morris, Dobell, Locker, Matthew Arnold, Sir Edwin Arnold, Gilbert, Gosse, Kent, Moultrie, Sidney Colvin, Coventry Patmore, J. A. Symonds, Clement Scott, Sims, Bailey, Martin Tupper, Skeat, Christina Rossetti, Jean Ingelow, Mary Howitt, Mrs. Archer Clive, Atherstone, Gerald Massey, Lewis Morris, Capern, and Mrs. F. Prideaux, are all born to the south of such a line. Those elsewhere are so few that they may be readily counted. Buchanan of Glasgow, Stevenson and Isa Craig of Edinburgh, Austin of Yorkshire, Allingham in Ulster, and George Macdonald in Aberdeen, are small oases in the prosaic north. It may be generally stated that, with a few notable exceptions, music, poetry, and art reach their highest development in the south, while theology, science, and engineering predominate in higher latitudes. Glancing over our figures, it may be briefly summed up that towns have a higher intellectual activity than the country, and that agricultural districts are usually richer in great men than manufacturing or mining parts. The lowlands of Scotland, Aberdeenshire, Dublin, Hampshire, Suffolk, London, Devonshire, Gloucestershire, and Berkshire, are, in the order named, the divisions of the kingdom which have, during the last twenty or thirty years, produced the most plentiful crop of distinguished citizens. The eastern and southern counties are in the aggregate superior in intelligence to the northern and midland. These in turn are superior to Cornwall and Wales, while the mental nadir is to be found in the western province of Ireland.—*Nineteenth Century.*

IMPORTANT ANNOUNCEMENT.

BONUSES TO SUBSCRIBERS TO "HEALTH."

HEALTH, as our readers are aware, may be obtained of all Booksellers and Newsagents, and at the Railway Bookstalls, on the day of publication. It may also be ordered from the PUBLISHER, 2, Paternoster-square, London, E.C., who will send the journal, post free, for a year, on receipt of postal orders for 10s. 10d.

As many of our readers who live in remote districts prefer to obtain HEALTH from the Publisher direct, and as we are desirous of increasing the already large number of subscribers who give us a yearly order for the journal, we offer the following FREE GIFTS and BONUSES to all who subscribe to HEALTH for one year or longer:—

(1.) To each Subscriber who remits 10s. 10d. to the Publisher, entitling him (or her) to receive one copy of HEALTH, post free, for one year, we shall present a copy of Dr. Andrew Wilson's work, entitled "A Manual of Health Science" (Longmans & Co.), value 2s. 6d.

(2.) To each subscriber who remits 21s. 8d., entitling him or her to receive two copies of HEALTH weekly, post free, for one year (or one copy for two years), we will present Dr. Richardson's "Ministry of Health" (Chatto & Windus), value 6s. The copies of HEALTH so ordered may be posted to separate addresses.

(3.) To each person who subscribes 32s. 6d., for three copies of HEALTH, post free, weekly, for one year, we will present the volume by Dr. Richardson mentioned above, and also the handsome, illustrated book entitled, "Studies in Life and Sense," by Dr. Andrew Wilson (Chatto & Windus), value 6s.—being a free gift of the total value of 12s.

The bonus last mentioned will also be presented to anyone who succeeds in obtaining three yearly subscribers to HEALTH, and who remits to the Publisher the sum of 32s. 6d., together with the names and addresses of the persons to whom the copies are to be posted each week.

As the literary gifts above-mentioned constitute books containing solid and reliable information regarding health and other matters of popular scientific interest, it will be seen that the above scheme, while intended to increase our already large circulation, also offers distinct advantages to new subscribers who guarantee by their subscriptions a year's support to this journal. All communications regarding subscriptions and other purely business details connected with HEALTH should be addressed directly to the PUBLISHER, 2, Paternoster-square, London, E.C., and *not to the Editor.*

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SOME NEW "SANITAS" PREPARATIONS.

FROM the "Sanitas" Company we have received samples of their "Sanitas" Antiseptic Lozenges, which contain five per cent. of the active principle—namely, soluble camphor—according to Mr. Kingzett's formula. These lozenges are thus charged with a highly-antiseptic, germicidal substance. They are not disagreeable to the taste, and in all conditions of the mouth in which an antiseptic application is indicated, they should prove most useful. For the cure of ulcerated throat and of allied conditions these lozenges will prove highly useful, while for many chest-affections they should certainly be tried.

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"Conference [maketh] a ready man."—*Bacon.*

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All Communications for the Editorial Department (including Books for Review, Specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 2, PATERNOSTER-SQUARE, LONDON, E.C. *Those intended for the Publishing Office to be sent to* MR. A. P. WATT, THE PUBLISHER, *at the same address.*

LETTERS TO THE EDITOR.

PRACTICAL EDUCATION *VERSUS* "HIGHER EDUCATION" OF MIDDLE-CLASS GIRLS.

SIR,—The evils of "Higher Education" among the Middle Class (tradesmen, clerks, poor professional men, and the poorer clergy) are already seriously felt. Not only do girls remain at school later than they did in our grandmothers' days, and so deprive their over-worked mothers of their assistance, but they are becoming, from over-mental exertion, and total neglect of physical exertion and care of health, and the fashion of tight lacing and wearing high-heeled boots and shoes in and out of doors, so feeble and sickly as to be a nuisance to themselves and everybody about them. Owing also to their extravagant form of dress and their utter ignorance of, and incapacity for, household work, or even of bringing well-developed, healthy children into the world, and bringing them up maturally and healthily, the girls of the Middle-Class remain single. Young men who could, and would, marry if they could meet with a healthy and domesticated bride, remain bachelors, to the detriment not unfrequently of their own health, "because the young women are so helpless and fond of dress." On all sides the doctors are crying out about the hand-feeding and mal-nutrition of infants, and of the puny condition of children generally, and specially of the diseased condition of the teeth. Hot tea, instead of cold milk, is now commonly given very wrongly to quite young children, even to infants. This condition is owing to the improper manner in which girls are now fed and educated, to the crass ignorance of school mistresses and school teachers, and to the folly of parents in wishing to bring up their girls as governesses and teachers of various grades, as being less *infra-dig.* than trade, &c.

In consequence of this craze, the market is so over-stocked that private school-mistresses, and the managers of public day schools are content to offer unblushingly starvation salaries. The "sweating system" certainly extends to governesses and school teachers. I know of more than one gentlewoman, whose education has cost many hundreds of pounds, who are expected to board and lodge and clothe themselves all the year round, and to keep themselves in health, and appear as ladies upon £50, £60, and £70 per annum. They cannot do it, and many are the lives sacrificed to the avarice of the employers of governesses and school teachers annually.

Why are parents and girls so blind? Is not a woman intended by nature, in spite of the twaddle talked by "womens'-rights women," to be a mother, and the mistress of a household? Surely, then, the first object in education should be to secure and retain health, and by physical exercises, open air recreations, and light domestic duties, to strengthen the growing girl, instead of weakening her mentally and bodily by keeping her daily, for hours at a stretch, in an injurious sitting posture, learning subjects which will never be of any practical use, and forgotten as soon as school is left. I would say, *en passant*, that the health of many school teachers suffers from over-standing now as much as that of shop assistants. The head mistress ought to arrange the classes in such a manner as to enable the assistant teachers to sit and stand alternately. School girls are often seriously injured by too long and too fast walking, on half holidays, in private schools. A short, brisk, but not too quick walk, where the elder and weakly girls cannot be separated, is best; and then, active games and rational gymnastics, as recreation for health's sake, not as a lesson, exacted

daily. The health of the teachers would improve if compelled to go through a few "free movements" (arms and legs) daily, during the morning, and if the head mistress insisted also on each teacher taking fifteen minutes' absolute rest during "lunch" time. I know one teacher who seems systematically done out of her morning rest.

Another point terribly neglected in girls' schools is the temperature of the class-rooms. Ventilation is not often neglected now, but warmth is. No girl (or boy for that matter) can study with success if cold, and without serious physical disturbance, which reacts on the brain and affects the mental powers. The cold may not be great enough to cause chilblains on hands and feet, but it is great enough to chill the extremities, lower the circulation generally, and dull the brain—even when serious illnesses do not ensue. Therefore a thermometer should hang in every class-room, and be constantly, say every hour, examined. The maintenance of warmth will go far towards obtaining satisfactory results when examination day arrives.

I appear to be wandering from my subject, but these remarks all tend to the same end, viz., the health (and without health study cannot be effectual) of girls at school, and their domestic usefulness when school life is over.

I think the authorities of public day schools much to blame for not providing a wholesome meal at 12.30 daily at a cost of sixpence per head; it could and ought to be done. This meal is usually left to the house-keeper to provide, and she charges one shilling per head. The consequence is many girls bring a few biscuits, or go out, a high-school mistress tells me, to the pastry-cook's and spend fourpence or sixpence on unwholesome confectionery, because their parents cannot afford the shilling demanded. The summer holidays are far too long. I know of some schools where nine weeks are given. The consequence is the girls forget what they have learned, and get into desultory and idle habits, and worry the unhappy mothers who cannot afford holiday governesses. Organized holiday cooking, nursing, gymnastics, swimming, and other classes, including physiology and personal care of health classes, might be advantageously and profitably formed.

I would advise that girls who, on attaining their thirteenth or fourteenth year, show no talent for teaching, and who have a decided bias for dress-making, embroidery, house-keeping, sick-nursing, wood-carving, and domestic work, should drop all school subjects, not likely to be of daily practical use in middle-class life, and take lessons in the above, given by trained and special teachers in some of the above, not forgetting book-keeping and shorthand. If these things were taught daily, as ordinary school subjects, then, at seventeen or eighteen years of age, a girl would be of real use to her father and mother in the house, shop, or office, and make a better wife and mother at three or four-and-twenty years of age than girls do now, and certainly if she have to leave home and earn her living when school life ends, she will be of more use and learn her trade or occupation more rapidly, and earn a higher salary too from the fact of her practical training having begun during her ordinary school life.

That this course would at first have a few difficulties I grant, but if school managers led the way and smoothed the difficulties, parents and girls would soon thankfully accept the boon.

Before I conclude, I must say that till mothers clothe their daughters rationally and healthily all school teaching will be hindered, and health will be feeble or indifferent. Let our girls wear loose fitting flannel combinations buttoned at the side, and their woollen bodice, made yoke fashion, with skirt or knicker-bockers buttoned on to it, and over that a smock-dress with loose sash, or if you will a dress of the fashion of the day, provided the skirt be sewn on to the bodice, and loose enough to allow for growing, and to prevent pressure on the stomach after food, or when writing or drawing. Woollen stockings and thick shoes with low heels to complete the dress. In winter, cloth gaiters and a knitted woollen petticoat will be needed, and long sleeves (loose armholes always) to the petticoat bodice will be advisable. If only mothers would adopt this form of dress they would be saved much labour, much expense and many a heart-ache, and save their girls many an illness. I trust my views may provoke a discussion on this most important subject, and induce mothers and school mistresses to combine for the future welfare of the nation, by bringing up the girls of the period in a more sensible and practical manner than now pursued.—I am, sir, yours, &c., JANE B. WHITE.

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of HEALTH will kindly note that when back numbers of the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the PUBLISHER of HEALTH, 2, Paternoster-square, London, E.C., and *not to the Editor.*]

ILL LUCK.—Yours is certainly a mysterious ailment, or, rather, complication of ailments, by your own showing. Send us some of the objects you regard as "parasites"; put them into a small phial in spirits of wine or glycerine, and send the phial by post. We will then examine them microscopically, and let you know the result. A consultation with a London physician would certainly be advisable. Send us stamped, addressed envelope when you transmit the phial for examination. In our opinion, you suffer from a constitutional disorder such as a physician, after seeing you, can alone direct you how to treat. We shall be glad to help you in any way we can. Try taking twenty drops Cascara Cordial once or twice daily, in water, between meals, as a preliminary measure.

B. G. SOFT.—Wash the feet regularly night and morning with tepid water, and dust thereon afterwards Woolley's Sanitary Rose Powder.

SUCCESS.—Dry the ear with a little cotton wool, and have blown into it gently, night and morning, a little very finely powdered boracic acid. Take also a teaspoonful of Syrup of the Hypophosphites, in a wineglass of water, twice daily after meals. Avoid colds and chills especially. If these simple measures do not cure you, consult an ear surgeon. We can send addresses of such, if desired, on receipt of stamped addressed envelope.

M. A. L.—Try taking two tabloids of Antipyrin (Burroughs, Wellcome & Co.'s) every two hours when your headache is present, until six tabloids have been taken. This dose may be repeated once daily, but not oftener.

CEPEA.—Try the effect of hot hip-baths taken at bedtime, when the pain is severe. If this treatment is not satisfactory, call in a physician, as there may be several little obstacles in such a case which a physician alone can readily detect and remove.

ALLAN C. B.—You simply suffer from "blackheads." Press out the matter from the glands, and then sponge the parts with a little of Bayley's Eau de Cologne. They are an evidence of defective skin action. Take warm baths, use brisk friction to the skin, wash with Bayley's Soap, and avoid excess of fatty foods.

P. HAY.—Read Dr. Andrew Wilson's "Manual of Health Science" (Longmans, Green & Co.) or Dr. George Wilson's "Manual of Hygiene" (Churchill & Co.); the book on "Healthy Houses," by the latter author (Churchill) is also a good work.

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PULVERMACHER'S World-Famed GALVANIC BELTS for the Cure of NERVOUS EXHAUSTION and DEBILITY, have received testimonials from three Physicians to Her Majesty the Queen, and over Forty Members of the Royal College of Physicians of London.

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194, Regent-street, LONDON, W.

ELGIN LASS.—Take twenty drops Cascara Cordial twice daily occasionally as a corrective to your digestive troubles. Avoid late suppers; give up all stimulants; and try Grant's Oat Flour for breakfast and supper. Tea and coffee are to be avoided, for a time at least.

LESBIA.—Use some of Wyeth's Chlorate of Potash Tablets, and allow one to dissolve in your mouth occasionally. If this is not sufficient to cure you, write again.

BOTHERED.—You must repaint and paper the room. Fumigate it first with the vapour of burning sulphur (one pound to each 1,000 cubic feet of space), and wash the floor, &c., with "Sanitas" soft soap and hot water; then repaint.

J. BLAIR.—Attend to the under-noted directions for tape-worm: Take no food for eight hours; then in the evening take the following draught: Extract of male fern, thirty minims; powdered gum acacia, one drachm; peppermint water, one ounce; make an emulsion. Next morning take a full dose of castor oil, and about mid-day a large plate of mashed potatoes. The minute head of the worm is the part which requires to be brought away.

B. S. S.—To make a shampoo liquid, try the following: Soft soap, half an ounce; powdered borax, one drachm; ammonia, one drachm; eau de Cologne, half an ounce; boiling distilled water, twenty ounces. Dissolve the soft soap and borax in the water, and when cold add the ammonia and eau de Cologne.

ALL NERVES.—1. Use Mellin's Food and milk only for the child until he is at least eight or nine months old, and give no starchy foods till the latter age is attained. Use Mellin's Food as directed on the tins. It is the only safe food for young infants. The child is too young for farinaceous foods, and Mellin's is not farinaceous. 2. Give him a little cream when he has cold, and a warm bath at night; order, also, his clothing wisely. 3. Bayley's Spermaceti Soap only (17, Cockspur-street, Pall-mall, London, S.W.). 4. Simply swallowed whole, along with a little water.

SCOTTY.—Avoid constipation above all else by taking an occasional dose of Lamplough's Pyretic Saline in the morning, and by the use of Dahl's Cakes and vegetable food. Avoid over-exertion; and use, night and morning, an injection made by adding a teaspoonful of Condy's Fluid to half a tumbler of tepid water.

JOHN MURRAY.—Apply a little boracic ointment to the sore night and morning. For the constipation, take twenty drops of Cascara Cordial, or two Cascara Tabloids, each night; and use Dahl's Cakes regularly with your breakfast and tea—see advertisement in our pages. Let your diet also be largely of vegetable nature for a time.

F. G.—See rule 4 to correspondents. You have not enclosed stamped addressed envelope. See advice given to "Boils" in HEALTH, No. 281.

COUNTER JUMPER.—Let the patient rest rigidly after meals for at least an hour, and avoid solid meats till well. Brand's Beef Essence should supply the place of solid flesh-food, and milk-puddings (made with Marshall's Tritola and Ptyaloid) should also be taken. White boiled fish and stewed fruits are good, and the milk taken should be peptonized by Fairchild's Powders. Let us hear result of this treatment. The pill recommended in No. 281 to "A. X. Y." might also be tried.

EMILY.—Take fifteen drops Fer Bravais after your meals, thrice daily, in water; and let your diet be of generous character. You evidently need a tonic and outdoor exercise and fresh air. Look, also, to the ventilation of your bedroom. Write again in a week or two if not cured, and send particulars of food, habits, &c.

BEESWAX.—Read the pamphlet, "A Lecture to Young Men" (post free for 1s. 1d. from Mr. Renshaw, 356, Strand, London, W.C.), and note what is said regarding the use of tonics therein. Take a hot bath at bedtime occasionally, and use brisk friction with a hard towel.

VERITAS.—1. We know of no mineral water of the kind you name. 2. Vichy and Pitkeathly. Try the last-named water (advertised in our pages). 3. No outward application can affect a weak heart. You want a heart-tonic (*e.g.*, strophanthus) prescribed by a physician after examining your chest.

D.—A good remedy is to inject, by means of a small syringe, a teaspoonful of pure (Price's) glycerine, either by itself or mixed with water. This appears to stimulate the bowel. You should certainly, however, try Cascara, either in the shape of the liquid extract (twenty drops in water, at night) or of Tabloids—the latter very handy, and made by Burroughs, Wellcome & Co., Snow-hill-buildings, London, E.C. This laxative is admirable, and leaves no after or cumulative effects. Let your diet be largely of vegetable nature. A tepid bath and massage to the abdomen each morning is also very useful in curing constipation.

A. F. P.—1. The use of arsenic is to be roundly and soundly condemned save under medical advice; and the recent article in our pages was meant to show the harm of the practice. 2. For your eyes, try a lotion composed of six grains sulphate of zinc added to six ounces of rose water. Dilute a little of this with water, and use as an eye-lotion.

SOME DOCTORS

HONESTLY admit that they cannot cure advanced kidney disease. Others say they can, but *don't*. Warner's SAFE Cure says nothing, but *cures*. That is the secret of its wonderful success. It is a scientific preparation. It is time-tried. It is made on honour. Its ten years of trial has proved its superiority, and its marvellous power over kidney disease is evinced by the following:—

59, Sankey-street, Earlestown, 11th July, 1888.—Three months since I was troubled with pains in the region of my kidneys, and felt very ill. I was recommended to take Warner's SAFE Cure, and I am happy to say that it gave me the desired relief. I thoroughly believe in this medicine, and can recommend it to all who suffer as I have done. (Signed) RICHARD EATON.

Slater's Cottage, Back-of-the-Walls, Southampton, July 11, 1888.—I feel a pleasure in informing you of the benefit I have received from the use of Warner's SAFE Cure. After a year's treatment from three different medical men, I was almost in a dying condition, when I commenced taking your remedies, and am now able to work. (Signed) WILLIAM LEACH.

The above testimonials were taken at random from the tens of thousands which are in the possession of Messrs. H. H. Warner & Co. No remedy on earth can show an equal record. The proprietors have thousands upon thousands of testimonials as to the merit of their SAFE Cure, and the number is being increased daily. This is because the medicine is honest, because it verifies the assertions made as to its virtues, and because when taken according to directions, *it will cure*. To be had of all chemists and medicine vendors at 4s. 6d. a bottle; or of H. H. Warner & Co., 86, Clerkenwell-road, London, E.C.

ROYAL MAIL.—1. You suffer from defective skin-action. Take a hot bath at bedtime occasionally, and use Bayley's Spermaceti Soap only. Read the article on "Blackheads" in HEALTH, No. 199, to be had from the Publisher. You will find modes of treatment suggested therein. 2. For constipation, see full advice given to "D." above. You certainly want more out-door exercise.

ARIADNE.—A properly-fitted elastic stocking should be worn by you: otherwise your varicose veins will get worse. You should cease gymnastics until at least you obtain a medical opinion as to the advisability of continuing them. Try taking a dessertspoonful of Scott's Pure Cod Oil Emulsion after your meals.

B. P. L.—Electricity is the only means of totally removing superfluous hairs. Depilatories simply destroy them temporarily, but do not attack the roots. We can send you address of a specialist who removes hairs by electricity on receipt of stamped addressed envelope.

W. H. (Bristol).—Certainly take cod liver oil after your meals. In our opinion you are only over-anxious about yourself. Go away for a change of air, if you can afford it, to the sea—more to the east than your present residence. Take your bath tepid in the morning, and dissolve some Tidman's Salt in the water.

STELLA.—Continue the iodine externally and the cod liver oil internally as originally advised. Wear a suspensory bandage regularly, and bathe the parts with cold water to which a little Hazeline has been added, night and morning.

BALTIC.—Such consequences are quite common in some persons, as the result of a change to the sea. Try the effect of a visit to London, and probably all your troubles will disappear. For the liver-ailment, &c., try the Cascara, &c., as recommended to "D." in the present number. A tepid salt bath each morning may do you good.

BARR.—You have no need to be alarmed. Follow advice given to "Stella" above, as regards the use of a bandage and bathing with Hazeline and water and avoid constipation—see advice on this latter head given to "D." in the present number.

OZŒNA.—[Why not attend to the proper address of HEALTH Office? See rules for Correspondents.]—Try smoking Marshall's Cubeb Cigarettes (to be had of any druggist) and bring the smoke down the nose. A nasal douche should also be used with a little Condy's Fluid added to tepid water. Brace up your system also by change of air (to the seaside), and by taking a teaspoonful of Syrup of the Hypophosphites in a wineglass of water, twice daily, after your meals.

VERY PALE.—Apply to the French Hygienic Society, 6, Conduit-street, London, W., and state your case and try their hair-preparations. Continue the Fer Bravais, but a change of air would be likely to be of great benefit to you. You seem to suffer from congenital hair-weakness by your own account. If you are ever in London you should consult a good physician. We can send you address of such, if desired, on receipt of stamped addressed envelope.

D. MELLITUS.—1. Certainly, all sugar is forbidden, while the gluten bread, &c., is regularly prescribed. All fresh fruits are debarred, and milk as well. Green vegetables are allowed, also all kinds of fish, flesh, and chicken, while cheese is not interdicted, nor cream, nor eggs. Acid (hydrochloric) in medicinal doses, largely diluted with water, is also allowed, and mineral waters (Vichy, Apollinaris, Carlsbad, &c.) are recommended. 2. There is no such thing as a "specific" in diabetes, and any person who advertises such a thing is, in plain language, a quack. Even the pathology of the disease is doubtful in some points. It is believed by some pathologists to have a nervous origin—an opinion founded on an experiment by Bernard, who produced a diabetic condition in lower animals by puncturing the eighth pair of nerves at their origin in the brain. Saccharin tabloids are now given in place of sugar to diabetic patients. See also a very useful food-table for diabetes published by Messrs. Sampson Low & Co., London, and also Mr. Van Abbott's list of special foods.

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Guaranteed to generate a mild continuous current of Electricity, which speedily cures all Disorders of the Nerves, Stomach, Liver and Kidneys. Thousands of Testimonials. **Pamphlet & Advice free on application** to **Mr. C. B. Harness,** *Consulting Electrician,* the **Medical Battery Co. Ltd.**
Only Address,
52, OXFORD ST., LONDON, W. (*Corner of Rathbone Place.*)
Call to-day, if possible, or write at once

IVY.—Read the article on "Blackheads" and how to treat them, in HEALTH, No. 199, to be had from the Publisher. The "heads" should be squeezed out whenever they form.

A. M. P.—See reply to "A. F. P." in the present number.

J. W.—Send us stamped, addressed envelope, and we will recommend you an Edinburgh physician. You should see a doctor at once, and be thoroughly examined by him.

LITERATURE.—See advice to "J. W." above. Your case is one for a medical examination and opinion.

R. E. M.—Follow advice given to "Mina" in HEALTH, No. 280. Use a soft brush only. If not cured, write again.

ANTISEPTIC.—One of the best mouth-washes we know is that made by Mr. Burley, chemist, 137, George-street, Edinburgh—Pyrethrine mouth wash; it can be sent you by post. Mr. Burley will also supply a toothbrush and tooth-soap such as you require.

JAMES GRANT.—Try the effect of taking the tonic recommended to "Ozœna" in the present number.

ST. MUNGO.—The person you have consulted is a quack. You should be aware of this. Do you suppose such a person knows more about disease than a qualified medical man? If you are wise, you will cease wasting your means on such advice, which you say does you no good. Read the pamphlet recommended to "Beeswax" in the present number, and learn therefrom the proper treatment of a case like yours. The probability is that you have been frightening yourself without cause.

THE QUEEN'S PRIVATE BAKER at Buckingham Palace, in recommending Borwick's Baking Powder, writes as follows:—"After giving your Baking Powder a fair trial, I beg to inform you that I find it a most excellent and useful invention."

LONDONITE.—A little stout would do you no harm at all, if taken once a day, to dinner. For the rest, you are doing what is perfectly correct, only give up taking the tonic as soon as possible, and trust for the rest to fresh air, plain food, exercise, and cold bathing. Try Dahl's Cakes (advertised in our pages) for constipation, and use the Cascara Tabloids as ordered to "D." in the present number.

B. ALSTON.—You are wearing garments which simply become sodden with perspiration. Use only the Cellular Clothing Company's underclothing (see advertisement in HEALTH), which affords warmth, combined with free evaporation of the skin-secretions.

OMEGA.—1. The flour appears to be very good in quality. 2. No; apt to cause acidity. 3. For most persons the cold sponge bath is most suitable, with brisk friction thereafter.

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A liquid preparation of the phosphates, recommended by physicians for
Dyspepsia, Mental and Physical Exhaustion, Nervousness, Weakened Energy, Indigestion, As a Drink in Fevers, &c.
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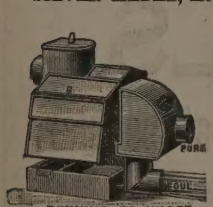

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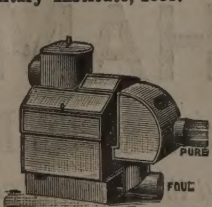

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